

AMENDMENTS TO THE CLAIMS:

The following listing of the claims replaces all previous versions, and listings, of the claims. Please cancel claims 1 to 18 without prejudice and add the following new claims 19 to 37:

Claims 1 to 18. (canceled)

19. (new) A method of determining one or more areas to be inspected on a surface of a three-dimensional object based on design data available in electronic form relating to the three-dimensional object, said method comprising the steps of:

a) automatically determining at least one area on said surface of said three-dimensional object to be inspected with an arithmetic logic unit based on said design data in said electronic form related to said three-dimensional object;

b) automatically determining at least one other area on said surface of said three-dimensional object that is not to be inspected with said arithmetic logic unit based on said design data in said electronic form related to said three-dimensional object;

c) automatically determining a respective manner in which each of said at least one area on said surface of said three-dimensional object is to be inspected; and

d) assigning said at least one area on said surface of said three-dimensional object to be inspected to pictures that were actually taken with an optical picture-taking device during an inspection with said optical picture-taking device.

20. (new) The method according to claim 19, wherein said design data is CAD data or is determined by a sensor.

21. (new) The method according to claim 19, wherein said at least one area on said surface of said three-dimensional object to be inspected is electronically stored or visualized as a calculated picture.

22. (new) The method according to claim 21, wherein said at least one area on said surface of said three-dimensional object to be inspected in said respective manner automatically based on said design data is capable of being processed manually.

23. (new) The method according to claim 22, further comprising displaying said calculated picture of said at least one area on said surface of said three-dimensional object to be inspected in said pictures that were actually taken during said inspection.

24. (new) The method according to claim 23, further comprising automatically comparing features in said at least one area on said surface of said three-dimensional object to be inspected in said

respective manner based on said design data with features recognizable in said pictures that were actually taken during said inspection, and then carrying out a position correction, if necessary, based on results of the comparing.

25. (new) The method according to claim 24, further comprising three-dimensionally calibrating said optical picture-taking device.

26. (new) The method according to claim 25, further comprising a fine-positioning of said three-dimensional object in said pictures that were actually taken.

27. (new) The method according to claim 19, further comprising moving said optical picture-taking device and said three-dimensional object relative to each other with a displacement device, planning an inspection path for said optical picture-taking device for inspection of said three-dimensional object based on said design data for said three-dimensional object or said at least one area to be inspected on said surface of said three-dimensional object and based on optical imaging characteristics of said optical picture-taking device, stored in an electronic form, and by using an arithmetic logic unit said inspection path for said optical picture-taking device is automatically determined by specifying a predetermined geometric relationship between said

optical picture-taking device and said surface on said three-dimensional object to be inspected.

28. (new) The method according to claim 27, further comprising guiding said optical picture-taking device over said three-dimensional object, and wherein said three-dimensional object is either stationary or moving.

29. (new) The method according to claim 28, further comprising determining picture-taking positions of the optical picture-taking device so as to cover said three-dimensional object or said at least one area on said surface of said three-dimensional object to be inspected with said pictures that were actually taken during said inspection.

30. (new) The method according to claim 29, wherein points in time for taking said pictures are determined considering displacement information of said displacement device and said picture-taking positions of said optical picture-taking device.

31. (new) The method according to claim 27, further comprising assigning an illumination device to said optical picture-taking device and determining said inspection path by specifying a specific geometric relationship between said optical picture-taking device, said illumination

device, and said surface on said three-dimensional object to be inspected.

32. (new) The method according to claim 31, further comprising determining a motion sequence for relative motion between said three-dimensional object and said optical picture-taking device or said illumination device for the optical picture-taking device from said inspection path.

33. (new) The method according to claim 32, further comprising keeping said inspection path or an inspection time as short as possible when said motion sequence is determined.

34. (new) The method according to claim 27, wherein said at least one area on said surface of said three-dimensional object to be inspected with a specified picture is assigned to each of said pictures actually taken with said optical picture-taking device during said inspection.

35. (new) The method according to claim 34, further comprising performing a check, based on said at least one area on said surface of said three-dimensional object to be inspected and said inspection path, to determine whether said three-dimensional object defined by said design data or an entire area of said surface to be inspected on said

three-dimensional object defined by said design data, has been completely covered.

36. (new) The method according to claim 27, further comprising visualizing said inspection path or said at least one area defined on said surface of said three-dimensional object to be inspected on display means.

37. (new) The method according to claim 36, wherein said display means is a display device.